

Abstract

A technique for designing a data storage system in which a configuration for memory devices and assignments of data stores to the devices are developed. A data structure having a plurality of nodes is stored in computer-readable memory. At least  
 5 some of the nodes correspond to a physical data storage device having respective attributes. A plurality of data stores each have data storage requirements, such as capacity and bandwidth requirements, that are provided as input. The data stores are assigned recursively into the hierarchy, checking at each node that none of the attributes are exceeded by the requirements of the store. While the stores are assigned, the  
 10 hierarchy may be modified to better accommodate the stores. The possible assignments which do not violate any attributes are compared to each other according to the goals of the system.